



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

EC-2
970370

Ref: 8MO

November 17, 1997

Mr. Edward C. Monnig, District Ranger
Murphy Lake Ranger Station
P.O. Box 116
Fortine, Montana 59918

Re: Meadow Timber Sales Draft
Environmental Impact Statement

Dear Mr. Monnig:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Environmental Protection Agency, Region VIII, Montana Office (EPA) reviewed the above-referenced Draft Environmental Impact Statement (DEIS).

The EPA is supportive of the need to provide timber to local communities, improve wildlife habitat, sustain forest health, reduce fuel accumulations, and manage road access in the Meadow project area. We also support proposed actions to address over harvesting of timber on adjacent private land by maintaining large blocks of old and late age class trees on public lands.

The Meadow DEIS, however, does not contain adequate information and explanation to allow the reader to fully understand the design of alternatives (i.e., reason for inclusion of treatment units in some alternatives, but not in other alternatives). This makes it difficult to offer specific suggestions on alternatives.

We encourage the Forest Service to carefully review and evaluate the rationale for selecting individual treatment methods and units, and consider constructing a modified preferred alternative by choosing treatment methods and units from the two preferred alternatives identified in the DEIS, Alternatives B and C. The EPA suggests that it may be possible to construct a modified preferred alternative that may better optimize the ability of the preferred alternative to address project purpose and need and the significant issues, while protecting ecological resources of the area (i.e., fisheries, water quality, old growth, wildlife, etc.).

Given the heavily roaded nature of the project area, and the need for numerous road closures/obliteration, to meet Forest Plan Standards, the EPA recommends particular scrutiny of all units



Printed on Recycled Paper

necessitating road construction. Consideration should also be given to converting proposed new permanent roads to temporary roads which are obliterated following project use. We support the many proposed road closures, particularly those associated with reducing nonpoint source pollution.

We also recommend that the Forest Service contact the Montana Department of Environmental Quality (i.e., Gary Ingman in Helena at 444-5320 and Stuart Lehman at 444-5319) to ensure State concurrence on, and coordination of, proposed activities in the Meadow Creek drainage with the State's Total Maximum Daily Load (TMDL) requirements for Fortine Creek and the Tobacco River. We recognize that Forest Service land in the Meadow Creek area comprises less than half of the watershed of the water quality limited segments, and that the TMDLs will need to consider pollutant loads and management on all land ownerships.

The EPA also believes that monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and should be an integral part of any management decision. Specific monitoring information should be disclosed in the FEIS to assure that the effects of the proposed activities on water quality (i.e., physical, chemical and biological effects) and air quality will be determined.

Our more detailed comments, questions, and concerns regarding the analysis, documentation, or potential environmental impacts of the Meadow Timber Sales DEIS are enclosed for your review and consideration as you complete the Final Environmental Impact Statement (FEIS).

Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the Meadow Timber Sales DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information). A copy of EPA's rating criteria is attached.

As can be seen from the enclosed comments, we believe additional information is needed to better explain the rationale for selection of treatment methods/units in alternatives. We have environmental concerns regarding potential impacts to existing degraded riparian habitat and water quality in the project area, particularly the North Fork of Meadow Creek. EPA believes additional information is needed to fully assess and mitigate all potential impacts of the management actions.

The EPA appreciates the opportunity to review and comment on the DEIS. If we may provide further explanation of our concerns please contact Mr. Steve Potts of my staff in Helena at (406) 441-1140 ext. 232. Thank you for the opportunity to comment.

Sincerely,



John F. Wardell
Director
Montana Office

Enclosure

cc: Cindy Cody/Virginia Rose, EPA, SEPR-EP, Denver
Ann Puffer, Forest Service-Region 1, EAP, Missoula
Gary Ingman, MDEQ-Monitoring & Data Mgmt. Bureau, Helena
Stuart Lehman, MDEQ-Resource Protection Planning Bureau,
Helena
Cliff Walker, Forest Service-Region 1, FRM, Missoula



SUMMARY OF RATING DEFINITIONS

ENVIRONMENTAL IMPACT OF THE ACTION

LO--LACK OF OBJECTIONS

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--ENVIRONMENTAL CONCERNS

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--ENVIRONMENTAL OBJECTIONS

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--ENVIRONMENTALLY UNSATISFACTORY

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

CATEGORY 1--ADEQUATE

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

CATEGORY 2--INSUFFICIENT INFORMATION

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

CATEGORY 3--INADEQUATE

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

road restrictions, and 25.16 miles of road obliteration. Open road densities in MA 15, 16, and 17 would be reduced from 4.5 to 3.0 miles/sq.mile.

Alternative E was designed to use selective harvest and avoid road closures. Alternative E would harvest 6,802 MMBF of timber on 3,545 acres, including no regeneration harvest. Prescribed underburning burning is proposed in harvest areas and on 711 acres outside harvest areas, with no underburning within designated old growth. Road management includes reconstruction of 23.08 miles of road, 1.46 miles of temporary road construction, 4.74 miles of new road, 0 miles of seasonal road restrictions, 2.12 miles of yearlong road restrictions, and 6.45 miles of road obliteration. Open road densities in MA 15, 16, and 17 would be reduced from 4.5 to 4.2 miles/sq.mile.

The DEIS identifies Alternatives B and C as preferred alternatives.

Comments:

Alternatives

1. We appreciate the presentation and tabulation of specific features of the action alternatives in Chapter 2. The listing of specific features improves understanding of the action alternatives, and facilitates alternatives comparison.
2. It is not clear in the "Specific Features" boxes included with the alternative descriptions of Chapter 2 (pages II-7, II-9, II-11, II-14) if acreage numbers presented for "underburning with manipulation" (outside harvest areas) include acreage listed for "underburning within designated old growth". We would generally assume that acreage listed for "underburning within designated old growth" (outside harvest areas) are included within the "underburning with manipulation" acreage, however, these figures for Alternative D (page II-11) show no underburning with manipulation, while 112 acres of underburning within designated old growth are shown? This should be clarified in the FEIS.
3. The discussion of Alternative C on page II-9 indicates Alternative C places emphasis on the condition of private land when designing treatments for public land, placing emphasis on maintaining old and late age classes on public land to compensate for decreased amounts on private land. It is not clear, however, how this emphasis is different from the goal of Alternative B, which is to stay out of areas that contain large blocks of older forest (page II-6)? It would appear that the Alternative B emphasis to avoid harvest in areas that contain large blocks of older forest would also maintain old and late age classes and compensate for decreased amounts of older forest on private land.

The EPA believes the Alternative C concept of evaluating management on adjacent non-national forest land and using that information to help design proposed actions on national forest land is appropriate. Management on adjacent non-national forest land must be considered when evaluating management actions on national forest land. Watershed and wildlife effects of management actions can only be evaluated if actions and impacts on all land within watersheds and wildlife habitat areas are considered regardless of land ownership.

It does not appear, however, that the emphasis of Alternative B ignores the over harvested condition on adjacent private land. The distinction between the Alternative B and C emphasis is not clear. Has Alternative B adequately evaluated actions and impacts on the 55% of the Meadow Timber Sales project area that is not national forest? Do any of the harvest units included in Alternative C, but not included in Alternative B (e.g., 303, 304, 353, 500, 313, 376, 30, 309, 354, 306, 22, 311, 317, 412, 340, 346, 350, and 352) enter large blocks of older forests?

4. Since the desired condition is to restore as much as possible pre-1900's natural forest species composition and structure, and much of the earlier logging targeted the prime Western Larch and Ponderosa Pine (page II-5), we recommend that existing large healthy Ponderosa Pine and Western Larch trees be spared from harvest. We do not see how continued harvest of these already overharvested tree species would promote natural resilient forest stands or sustain forest health.

In accordance with this concern, the EPA favors improvement cut and thinning forest treatments that remove the lowest quality, least vigorous, and least desirable tree species in particular forest stands. If regeneration harvests must be used we favor shelterwood harvests that leave 20-40 reserve trees per acre. Harvests should leave existing healthy Ponderosa Pine and Western Larch as reserve trees.

5. It is not clear why the two issues of preference for selective harvest over clear cutting, and dislike of closed roads were addressed with one alternative, Alternative E (page II-13). The public that is concerned about even-aged (clear cutting) management and excessive roading, and the public that favors timber production and roads has something to both like and dislike in Alternative E.

We suggest that it may have been more appropriate to have had one alternative that favored selective harvesting with an intermediate level of road closures, and also to have had an

alternative that minimized road closures with some intermediate level of timber harvest.

6. While the general concepts behind the design of individual alternatives is presented in Chapter II, the rationale for selection of the individual treatment units for the action alternatives are unclear. It is difficult for the reader of the DEIS to understand specific reasons for inclusion of units in one alternative but not another. We believe it would be helpful to include additional discussion of the rationale for selection of particular treatment methods/units for alternatives. This would improve public understanding of the proposed project, and better achieve the public disclosure purpose of the EIS.

We do not mean that detailed discussion of the rationale for each individual treatment unit is needed (although we have seen this done in appendices of some EIS's). Some additional discussion or explanation of the rationale for inclusion of units in alternatives, however, would assist the reader in understanding why some units are included in one alternative but not another.

Improved explanation of the rationale for inclusion of specific units in individual alternatives would assist the reader in suggesting construction of a modified alternative by picking and choosing treatment units from among the alternatives. We believe more meaningful suggestions for treatment units for a preferred alternative would be forthcoming to the Forest Service if improved rationale for selection of the treatment units for the alternatives were provided. Also, expanded discussion of treatment unit rationale may better explain to the public the resource trade-offs involved in making land management decisions, and may lead to improved public acceptance of decisions.

A few examples where the rationale for selection of the treatment unit are unclear, or where questions arise are as follows:

- a) Why is the large "thin from below" units #370, 5, 380, 402, and 48 and patch cut unit # 376 included in Alternative B, but not with Alternative C?
- b) Why are there Alternative B regeneration units proposed in areas where no harvests are proposed in Alternative C (e.g., #82, 378, 386, 118, 398, 391, 396, 395, etc.)?
- c) Why does Alternative C include additional units around the improvement cut unit #20 (i.e., units #353, 303, 304) while Alternative B does not have any treatments or units in these areas?

d) Why are improvement cut units # 15, 16, 310, 311, 317, 330, 333, 412, 340, 346, 350, and 352 included with Alternative C, while Alternative B does not have any treatments or units in these areas?

e) Why are thin from below units # 54, 59, 5, 74, 197, 174, 135, 339, 342, and 181 included with Alternative C, while Alternative B does not have any treatments or units in these areas?

f) Why are regeneration units # 308, 500, 104, 313, 334, 338, 351 included with Alternative C, while Alternative B does not have any treatments or units in these areas?

g) Could the large amount of Alternative B regeneration harvest in the North Fork of Meadow Creek drainage be converted to improvement or thinning cuts to reduce over harvesting impacts in this drainage? Perhaps some of the improvement cut units included in Alternative C, but not in Alternative B could be incorporated into the final preferred alternative to make up for the reduction in regeneration harvest in the North Fork drainage.

7. The EPA suggests that the optimal alternative from a resource and environmental perspective may be to construct a new or modified alternative by picking and choosing treatment units from among the present action alternatives. It would appear that selection of units from Alternative B and Alternative C could be used to construct a new preferred alternative to best protect ecological resources of the area (i.e., fisheries, water quality, old growth, wildlife, etc.) while achieving the project purpose. The EPA recommends, as stated earlier in comment # 4, that harvest methods that avoid harvest of existing large larch and ponderosa pine be selected to restore more natural forest composition and structure. We also recommend minimal new road construction and improvement or obliteration of existing roads causing nonpoint source pollution.

We note of course that the Forest Service will need to evaluate and analyze the impacts (e.g., water yield, sediment production, air quality modeling) of any new modified alternative, and display those impacts in the FEIS.

Fire and Air Quality

8. The EPA does not object to the judicious use of prescribed fire to control forest fuel accumulation and to influence forest composition and structure (e.g., low intensity fire in specific planned locations spread out over time so that some vegetative cover could become reestablished before the next phase of prescribed fire, with fire carried out during climatic conditions

that minimize air quality impact). We do, however, have several comments on the air quality analysis information in the DEIS as follows:

- a) If there is a meteorological station representative of the area, a windrose should be presented to indicate the direction of the prevailing winds. Windroses, representative of each quarter of the year, would be beneficial to give the public an idea of the direction of prevailing winds during the spring, summer, and fall seasons when prescribed burning is likely to occur.
- b) Please provide a reference for the "studies performed by the Health and Environmental Sciences Department" mentioned on page III-9.
- c) A table showing estimated PM-10 emissions associated with prescribed burning for each alternative should be presented. The PM-10 emission factors listed on page IV-15 along with the acres shown in Table IV-6 should be used in this table.
- d) Please clarify the following apparent discrepancy: On page IV-14, the last sentence in the second paragraph under "Pile burning" states, "Prescribed burns would occur only when compliance with State Air Quality Standards could be met". Then on page IV-15, the last sentence in the first paragraph under Cumulative Effects states, "However, under stagnant atmospheric conditions, smoke from prescribed burns, can create a short-term unhealthy impact on local air quality." Do the State Air Quality Standards allow prescribed burns during periods of stagnant atmospheric conditions?
- e) For mitigation, what steps if any will be taken to reduce fugitive dust emissions occurring from vehicles traveling on dirt roads? What factors, in the State Air Quality Standards, will help to mitigate air quality impacts during prescribed burns (e.g., establishing a speed limit on the road to reduce road dust, watering or using dust suppressants on roads, etc.,)?
- f) The EPA believes monitoring of activities will be beneficial to improving understanding of impacts upon air quality. We encourage you to develop a monitoring plan to help you establish a quantitative and qualitative understanding of the impacts to air quality. Such a monitoring plan would also help to validate quantitative predictions for future activities. Careful scheduling of the many burning activities to coincide with proper climatological and meteorological conditions will be necessary to avoid air quality problems. We note that the

PM-10 nonattainment area of Whitefish is located southeast of the project area, and the Class I air quality area of Glacier National Park is located east of the project area.

Soils

9. The discussion of landtypes on pages III-3/4 and the delineation of landtypes on Map III-2 provide important information. It would be of particular interest to know which harvest units are proposed on sensitive landtypes (i.e. landtypes 101, 102, 105, 251, 322, 328). It is awkward for the DEIS reader to compare Map III-2 with the alternatives maps in Chapter 2 without an overlay.

It appears that the Forest Service has evaluated landtypes relative to harvest units, and identified harvest units located on sensitive landtypes, since it is stated that winter logging or operation on dry ground will be used in units with sensitive soils (page IV-3). For disclosure purposes we recommend that proposed harvest units that are located on sensitive landtypes be identified in the FEIS. Will winter logging and operation on dry ground adequately protect all sensitive areas? Are all harvest units in sensitive areas needed? Should some of these sensitive areas be avoided?

10. Will new roads and temporary roads be constructed in areas of low erosion potential?

Aquatics

11. It is stated that, "almost all of Meadow and Fortine Creeks and the Tobacco River are located on private land" (page III-36), and that, "approximately 15 percent of Meadow Creek is on National Forest land" (page III-37)." Does this mean that the watersheds for these drainages are also almost all on private land, and that only 15 percent of the Meadow Creek watershed is on national forest land?

It would appear that a significant amount of the Meadow Creek watershed is located on national forest land. We note that the DEIS summary states that 45% of the Meadow Timber Sales project area is in Forest Service ownership (page S-1), and Map III-9 appears to show greater than 15% national forest land in the Meadow Creek watershed.

12. We note that Fortine Creek and the Tobacco River are listed by the State of Montana as Water Quality Limited Stream (WQLS) segments (page III-35), and that Meadow Creek is tributary to Fortine Creek, which is tributary to the Tobacco River.

Fortine Creek and the Tobacco River will need development of Total Maximum Daily Loads (TMDLs). The TMDL process identifies the maximum load of a pollutant (e.g., sediment, nutrient, metal) a waterbody is able to assimilate and fully support its designated uses; allocates portions of the maximum load to all sources; identifies the necessary controls that may be implemented voluntarily or through regulatory means; and describes a monitoring plan and associated corrective feedback loop to insure that uses are fully supported.

We recognize that Forest Service land in the Meadow Creek area comprises less than half of the watershed of the WQLS segments, and that TMDLs will need to consider pollutant loads and management on all land ownerships. We recommend that the Forest Service contact the Montana Department of Environmental Quality (i.e., Gary Ingman at 444-5320 or Stuart Lehman at 444-5319, both in Helena) to ensure MDEQ concurrence on, and coordination of, proposed activities in the Meadow Creek drainage with the State's TMDL requirements for Fortine Creek and the Tobacco River.

13. Also, it appears from review of the Chapter 3 description that Meadow Creek also has water quality impairment (e.g., "private land management has caused extensive damage along the lower gradient, perennial reaches of Meadow Creek" (page III-31)). We have drawn the attention of the MDEQ Monitoring and Data Management Bureau toward Meadow Creek, and suggested that Meadow Creek be assessed for water quality impairment.

14. We are pleased that the proposed alternatives would all preclude activities within riparian areas and wetlands (page IV-49), and would propose some level of wetland improvement (page IV-51). Will a buffer be established between all harvest units and streams? We recommend a minimum 150 foot buffer between harvest units and streams. We also encourage the Forest Service to delineate and mark the RHCAs and perennial seeps and springs and wetlands on maps and on the ground before harvesting so that timber contractors will be able to avoid them.

15. We note that many of the existing roads in the project area are a source of nonpoint source pollution (page IV-51), and we are pleased that all action alternatives propose to remove (obliterate) or improve roads with known hydrologic problems (e.g., erosion, water routing, interception). It would be of interest to identify in the FEIS the existing roads that cause nonpoint source pollution problems so that these could be prioritized for obliteration or improvement.

16. It is evident from review of Map II-1 that many regeneration harvests (units 386, 388, 318, 390, 392, 394, 118, 121, 391, 398, 395, 399, 387, 393) and three improvement cuts (units 385, 389,

397) are grouped closely together in the North Fork of Meadow Creek drainage. The statement on the top of page IV-54 that some "localized response" may occur as a result of concentrated harvest in this drainage with Alternative B, causes concern. We are concerned that this "localized response" may be excessive peak flow, erosion, and sediment transport in this North Fork drainage and downstream. We note that the predicted water yield increase in the North Fork of Meadow Creek of 14% is at the maximum allowed by the Forest (Table IV-30). More detailed specific disclosure of the effects of such concentrated harvest on North Fork Meadow Creek channel stability and water quality should be provided.

Also, we do not see how this concentrated North Fork harvest would "reduce the amount of sediment delivered downstream" as stated in the DEIS (page IV-54). We recommend reconsideration of this concentrated Alternative B harvest with conversion of some regeneration units to improvement cuts, and/or deletion of some units.

17. It would appear that WATSED water yield model results would be of less concern for the Alkaline Chain of Lakes area and Dudley/Tobacco/Fortine areas since these areas consist of isolated basins lacking surface drainage channels, and additional water yield would likely infiltrate into groundwater rather than contribute to channel erosion (page IV-60). We are, therefore, not as concerned about the predicted peak flow increases of 14% (or over) in these isolated basins lacking surface drainages as we are about the 14% peak flow increase predicted for Alternative B in the North Fork of Meadow Creek.

18. While we would agree that road obliteration and restrictions on use of roads with the action alternatives should reduce sediment delivery from roads, it is not clear to us that these reductions will exceed sediment produced from new road construction and road reconstruction, as suggested in the DEIS. Is the prediction of overall sediment reductions from action alternatives solely based on road impact index (RII) calculations? We recommend that post-project water quality monitoring be carried out to identify, document, and quantify sediment delivery and other aquatic effects of the proposed action.

19. The EPA believes that water quality/aquatics monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and should be an integral part of any management decision. We believe a monitoring plan should be identified in NEPA documents.

We did not see clear disclosure in the DEIS describing proposed water quality/aquatics monitoring that would be used to

validate and document BMP effectiveness and maintenance of instream beneficial uses. We note that the BMP Implementation Process described on page III-35 indicates that BMPs (i.e., land soil and water conservation practices) are only considered to be "reasonable" if beneficial uses are protected. The DEIS also states that the proposed activity will ensure that beneficial uses are protected by designing, applying, and monitoring BMPs. Reference is also made on page IV-52 to using ecosystem management and "continuous monitoring" to conserve and maintain riparian environments and fluvial systems.

The EPA believes that the proposed BMP monitoring and continuous riparian and fluvial system monitoring referred to in the text should be described. Monitoring should be performed to detect hydrologic, aquatic habitat, and biological effects of proposed activities. This is needed to validate and document BMP effectiveness and protection of beneficial uses. How can the BMP Implementation Process work if adequate water quality monitoring is not in place to verify that water quality standards and instream beneficial uses are maintained, and if monitoring information is not fed back to managers?

It would also be valuable to document and quantify reduced sediment delivery associated with proposed road obliteration and road closures, and validate the prediction that sediment reductions anticipated from road closures more than compensate for sediment production associated with road construction and reconstruction? How can this be known without monitoring data? Without this information the EIS is inadequate to fully assess the role of monitoring and evaluation in project implementation.

We would like to see clear water quality monitoring goals and objectives identified and described in the FEIS (e.g., what questions are to be answered; what parameters are to be monitored; where and when monitoring will occur; who will be responsible; how the information will be managed and evaluated; and what actions will be taken based on that information).

The monitoring plan should at a minimum include sampling design, methodology, parameters, sampling site locations shown on a map, and frequency or pattern of sampling. The EPA strongly recommends incorporation of a biological component, such as rapid bioassessments using macroinvertebrates, in a monitoring program. Monitoring of the aquatic biological community is desirable since the aquatic community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples of turbidity and suspended sediment. We encourage you to use the following reference materials in designing and disclosing a monitoring program:

"Monitoring Guidelines to Evaluate Effects of Forestry

Activities on Streams in the Pacific Northwest and Alaska",
Lee H. McDonald, Alan W. Smart, and Robert C. Wissmar; May
1991; EPA/910/9-91-001.

"Rapid Bioassessment Protocols for Use in Streams and
Rivers", James A. Plafkin; May 1989; EPA/444/4-89-001.

Wildlife

20. It would appear that the concepts emphasized in Alternatives B and C of placing larger harvest units adjacent to existing forest openings (page IV-10), should preserve areas that are currently less fragmented, and accordingly should be preferred. However, we defer to the expertise of the wildlife biologists of the Forest Service, U.S. Fish & Wildlife Service, and Montana Dept. of Fish, Wildlife, & Parks regarding wildlife habitat, fragmentation, and connectivity considerations in locating harvest units.